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SHORT REPORT

Tucking Practices and Attributed Health Effects in Transfeminine Individuals

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Abstract

Tucking is the gender-affirming practice of putting the penis and scrotum between the buttocks and moving the testes up into the inguinal canals. Our study explores tucking and health effects among transfeminine adults ($n = 79$). Most (74.7%) had practiced tucking and among them, 67.2% had tucked ≥7 years. When tucking, the majority (84.5%) tucked daily and almost half (44.8%) ≥17 h/day. Half (50.0%) reported concern about the health effects of tucking. Itching, rash, and testicular pain were the most commonly reported health effects. Health care providers should use a harm reduction approach in addressing tucking-related concerns and supporting patients who tuck.

Keywords: gender affirmation; patient-centered care; transgender; tucking

Introduction

A growing body of research demonstrates that gender affirmation improves the health and well-being of transgender individuals and communities.[1,2] Gender affirmation may include changing one's physical appearance to align with gender identity. While some gender-affirming body modifications involve medical interventions, such as hormone therapy and surgeries, others require no external intervention, such as the practice of tucking—common among transfeminine individuals (assigned-male-at-birth [AMAB]). Tucking involves putting the penis and scrotum between the buttocks and moving the testes (if present) into the inguinal canals.[3] Individuals who tuck use a variety of methods to hold the penis and scrotum in place, including different kinds of tape (e.g., surgical or duct tape), gaffs (i.e., special undergarments for tucking), and layered tight underwear.[4]

Research on tucking is scarce beyond nascent work on its impacts on fertility.[5–8] Some online resources based on community and clinical advice have been disseminated in recent years, and provide instructional guides and information about tucking, but are not evidence based.[9–12] In 2016, the University of California, San Francisco Center of Excellence for Transgender Health, published guidelines for addressing pain and other complaints that can be caused by tucking.[4,13]

In addition to pain (e.g., scrotal pain, dysuria, general discomfort), existing resources draw attention to other potential negative physical health consequences of tucking, including urinary reflux, prostatism, infections, and rashes. A recent study by de Nie et al. on semen quality in transgender women seeking fertility preservation found that tucking was significantly associated with low motile sperm count, independent of demographics, lifestyle factors, and medical history.[5]

There is a gap in research on physical and mental health outcomes associated with nonmedical gender-affirming body modifications, like tucking. In this article, we describe tucking practices and self-reported attributed health effects in a sample of AMAB transgender adults. We use these data from the Be the Conversation (BTC) study to make recommendations to health care providers about caring for transfeminine individuals who practice tucking.

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Methods

Participants

Informed through formative qualitative research with local key informants (e.g., transgender leaders, health and social services providers to transgender communities), BTC aimed to explore the health and social service needs of transgender Baltimoreans and was co-led by a research team at the Johns Hopkins School of Public Health (JHSPH) and the Transgender Response Team—a group of health and human services providers, state and local government representatives, gender diverse community members and allies working toward solutions to health and wellness concerns within transgender communities in Maryland.

Individuals who met the following criteria were eligible to participate: (1) ≥ 18 years of age, (2) live in the Baltimore or Towson metropolitan areas, and (3) identify as transgender or any gender that is different from sex-assigned-at-birth. This article focuses on AMAB participants who responded to one or more questions about their tucking experiences. Four participants were excluded because they selected male or man as their only gender identity.

Recruitment and data collection

Data was collected between March and September 2016. We used a convenience sampling strategy that included partnering with trusted community organizations and health centers, and attending local transgender-inclusive community events to circulate study information. The survey was hosted on SurveyMonkey. Participants completed the survey online, or in-person on study tablets in private rooms at community events. Surveys were interviewer-administered if requested ($n = 19$).

Ethics

All participants provided informed consent before starting the survey and received a $25 Visa gift card after completion. The study protocol was approved by the JHSPH Institutional Review Board.

Measures

BTC included questions about the frequency and perceived health impacts of tucking. The structure of the tucking questions was based on questions about chest binding experiences in transmasculine individuals, developed for the Binding Health Project survey.[14] Questions were revised to reflect transfeminine experiences with tucking based on input from three health care providers with considerable experience serving transgender communities, including the senior author.

We defined tucking as a "nonsurgical method some people use to reduce the appearance of the penis and/or testes, to be more comfortable with their gender expression" in the survey. We asked AMAB participants whether they had ever tucked. Those who reported ever tucking were then asked the following: whether they currently tuck, average number of days/week spent tucking, average hours/day spent tucking, total time tucking, tucking methods, level of concern about the effects of tucking on health, and health problems they believed were caused by tucking. Survey questions are included in Supplementary Appendix SA1.

Statistical analysis

We present descriptive data on current or past tucking practices from participants who have not had gender-affirming genital surgery and previous tucking practices among participants who have had genital surgery. Due to the small sample size and hypothesis-generating nature of these data, we have not conducted statistical testing. Variability in denominators is due to participants skipping questions.

Results

Among 79 AMAB participants, over two-thirds ($n = 59/79$; 74.7%) reported ever tucking. Participant sociodemographics by history of tucking are shown in Table 1. Most participants ($n = 52/58$; 89.7%) who reported ever tucking also tucked currently. The majority of participants who had ever tucked were Black ($n = 42/58$; 72.4%), followed by White ($n = 10/58$, 17.2%) and multiracial ($n = 6/58$; 10.3%). Among participants who never tucked, 38.9% ($n = 7/18$) were Black, 38.9% were White ($n = 7/18$), and 16.7% ($n = 3/18$) were multiracial. Regardless of tucking experience, most had public insurance or were uninsured and endorsed high levels of socioeconomic insecurity. Notably, 76.0% ($n = 38/50$) of participants who ever tucked were living below the federal poverty line, and almost 60% (59.3%; $n = 35/59$) reported some food insecurity in the past 30 days.

Almost all participants who ever tucked reported having taken hormones (91.5%; $n = 54/59$), whereas 65.0% ($n = 13/20$) of those who never tucked were ever on hormones. Similarly, 71.2% ($n = 42/59$) and 55.0% ($n = 11/20$) of participants who ever and never tucked, respectively, were currently on hormones. A total of 10 participants (ever tucked [11.9%; $n = 7/59$]

Table 1. Participant Sociodemographics

Sample characteristics	All AMAB participants ($n=79$)	Ever tucked ($n=59$)	Never tucked ($n=20$)
Mean age (median; range)	37 (33; 19–69)	36 (33; 19–62)	39 (33; 19–69)
	n/N (%)	*n/N* (%)	*n/N* (%)
Gender identity (select all that apply[a])			
Female/woman	20/79 (25.3)	16/59 (27.1)	4/20 (20.0)
Transgender female or trans woman	57/79 (72.2)	45/59 (76.3)	12/20 (60.0)
Male or man/transgender male or trans man[b]	5/79 (6.3)	2/59 (3.4)	3/20 (15.0)
Gender fluid/gender queer/nonbinary	6/79 (7.6)	2/59 (0.0)	4/20 (20.0)
Two spirit	3/79 (3.8)	1/59 (1.7)	2/20 (10.0)
Nongender/agender/another gender	3/79 (3.8)	2/59 (3.4)	1/20 (5.0)
Race/ethnicity			
White	17/76 (22.4)	10/58 (17.2)	7/18 (38.9)
Black	49/76 (64.5)	42/58 (72.4)	7/18 (38.9)
American Indian or Alaska Native	1/76 (1.3)	0/58 (0.0)	1/18 (5.6)
Multiracial	9/76 (11.8)	6/58 (10.3)	3/18 (16.7)
Latinx or Hispanic (of any race)	7/79 (8.9)	6/59 (10.2)	1/20 (5.0)
Health insurance			
Private	13/78 (16.7)	5/58 (8.6)	8/20 (40.0)
Public	53/78 (68.0)	43/58 (74.1)	10/20 (50.0)
Uninsured	12/78 (15.4)	10/58 (17.2)	2/20 (10.0)
Socioeconomic factors			
High school education or less	41/77 (53.2)	29/58 (50.0)	12/19 (63.2)
Unstably housed, past 12 months	32/78 (41.0)	25/58 (43.1)	7/20 (35.0)
Income below federal poverty line	48/67 (71.6)	38/50 (76.0)	10/17 (58.8)
Unemployed	32/78 (41.0)	23/59 (39.0)	9/19 (47.4)
Any food insecurity, past 30 days	46/79 (58.2)	35/59 (59.3)	11/20 (55.0)
Gender-affirming care			
Ever on hormones	67/79 (84.8)	54/59 (91.5)	13/20 (65.0)
Currently on hormones	53/79 (67.1)	42/59 (71.2)	11/20 (55.0)
Orchiectomy (removal of testes)	10/79 (12.7)	7/59 (11.9)	3/20 (15.0)
Vaginoplasty/labiaplasty (creation of vagina and labia)	10/79 (12.7)	6/59 (10.2)	4/20 (20.0)
Silicone/saline implants	14/79 (17.7)	10/59 (17.0)	4/20 (20.0)

[a]Total *n* may exceed total sample size because participants could select more than one response.
[b]Participants who selected "male or man" and another gender identity were included in analyses. Participants who selected "transgender male or trans man" (whether or not they selected another gender identity) were included in analyses as some AMAB transfeminine individuals may describe themselves as transgender men.
AMAB, assigned-male-at-birth.

and never tucked [15.0%; $n=3/20$]) reported having an orchiectomy, and 10 ($n=6/59$ [10.2%] who ever tucked and $n=4/20$ [20.0%] who never tucked) reported having a vaginoplasty/labiaplasty. A similar proportion of those who ever (17.0%; $n=10/59$) and never tucked (20.0%; $n=4/20$) had silicone or saline implants.

Just over two-thirds (67.2%; $n=39/58$) who ever tucked reported tucking for over 7 years, and another 22.4% ($n=13/58$) tucked for between 1 and 6 years (Fig. 1). Most participants (84.5%; $n=49/58$) reported tucking every day when tucking (Fig. 1). Almost 80% (79.3%; $n=46/58$) tucked for over 8 h/day on average, including 26 participants (44.8%) who reported ≥ 17 tucking hours on average days. The most common tucking methods were gaffs (72.9%; $n=43/59$), tight panties or briefs (62.7%; $n=37/59$), and duct tape (10.2%; $n=6/59$).

Less common methods included surgical or sports tape, shapewear and layers of underwear, pantyhose, tights, and leggings. Half (50.0%; $n=29/58$) reported some level of concern (little [19.0%; $n=11/58$], moderate [15.5%; $n=9/58$], or very [15.5%; $n=9/58$]), and others were not at all concerned (44.8%; $n=26/58$) or neither concerned nor unconcerned (5.2%; $n=3/58$) about the effects of tucking on their health. The most commonly selected health problems attributed to tucking were itching (27.1%; $n=16/59$), rash (20.3%; $n=12/59$), and testicular pain (17.0%; $n=10/59$) (Fig. 2). Over 40% (40.7%; $n=24/59$) had not experienced any health problems that they attributed to tucking.

Discussion

Most AMAB participants in BTC reported tucking, and over half had concerns about potential associated health effects. Attributed health effects ranged from itching and rashes to infections of the skin and urinary tract and problems ejaculating. Health care providers should routinely ask transfeminine patients about tucking practices and assess for commonly reported health effects,

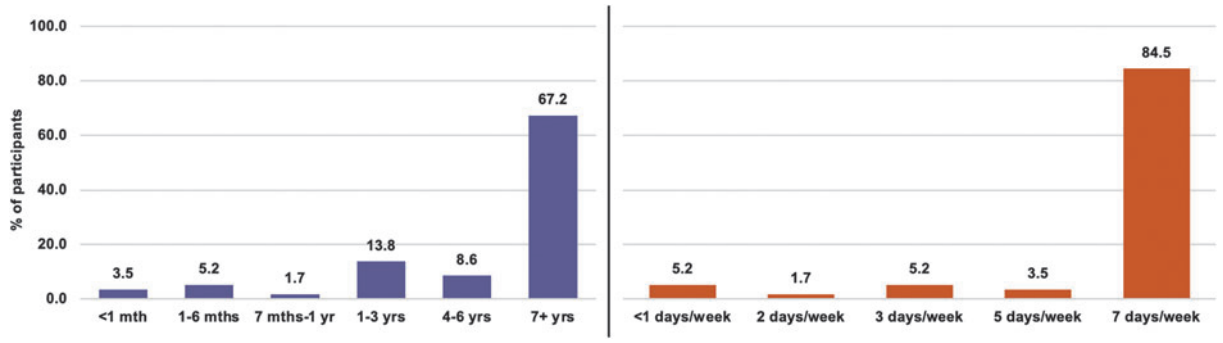

FIG. 1. Time spent tucking over lifetime and average number of days spent tucking/week ($n = 58$). No participants reported tucking 1, 4, or 6 days/week, although these response options were offered.

including those which may be attributed to other causes by the patient. It is important for health care providers to consider any possible contribution tucking may make to the aforementioned health problems.

For example, transfeminine individuals may be taking hormones and tucking concurrently. Hormone therapy has been linked to decreased sexual function,[15] but tucking may also contribute to this problem. Sociopolitical factors can also play a role in common symptoms associated with tucking. For example, exclusionary bathroom policies can result in bathroom avoidance and lead to health consequences like urinary tract infections.[16,17] It is imperative that health care providers consider a variety of causes for health issues associated with tucking, including other health-related and sociostructural factors, when advising patients.

Notably, most of the sample had tucked long term (7 years+), and tucked every day of the week for ≥8 hours/day on average. These findings underscore the

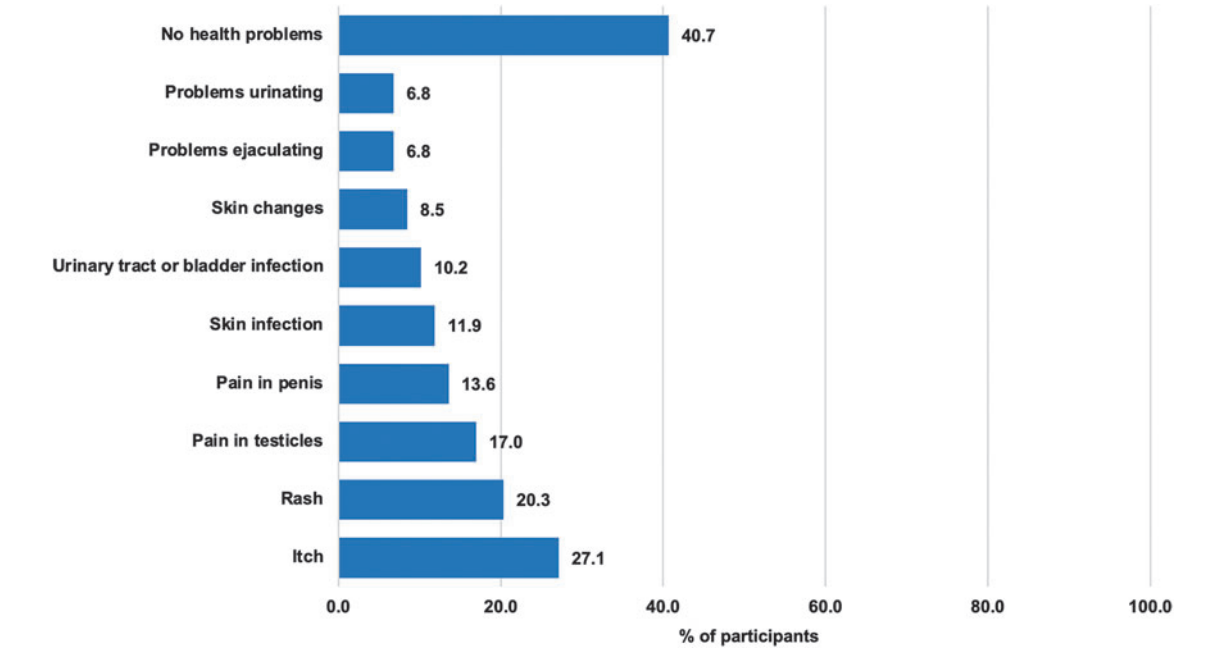

FIG. 2. Health issues since tucking that were attributed to tucking ($n = 59$). Open-text responses included bruised hip ($n = 1$), blood clot in testicles ($n = 1$), and blood in urine ($n = 1$).

need for research on tucking motivations and positive social and mental health outcomes of tucking as drivers of long-term tucking and tucking choices (e.g., tucking materials). Health care providers should support patients who tuck in making informed decisions about the risk for adverse physical symptoms compared with benefits motivating their tucking practices.

As described in online tucking resources[12] and analogous research on chest binding in transmasculine communities,[14,18] gender-affirming body modifications can promote mental health and quality of life by reducing gender dysphoria (and may be necessary for managing mental health), increase one's sense of control and agency, and increase safety in public spaces (e.g., reducing risk for anti-transgender discrimination and social exclusion). For example, transfeminine individuals may be more vulnerable to violence in public if they are recognized as transgender.[19] Tucking and other forms of gender expression, affirmation and transition may reduce this risk.

Given the potential benefits of tucking, health care providers should avoid discouraging tucking. Rather, we recommend a harm reduction approach that includes provision of evidence-informed counseling on safer tucking practices. Providing resources on access to safe and affordable tucking materials may reduce the risk of adverse health outcomes, especially for individuals facing socioeconomic hardships—a widespread issue in this sample.

The prevalence of long-term tucking in this sample also raises questions about access to genital surgery for transgender individuals, especially low-income transfeminine people of color. Although not all transfeminine individuals want genital surgeries, many who do may face financial or other barriers. Health care providers should assess interest in and address barriers to surgery during health care conversations about tucking and gender goals.

There is a great need for research on tucking practices, motivations, and short- and long-term mental, physical, and quality of life outcomes with larger samples and longitudinal data. This research should explore health outcome differences by tucking practices to inform health care guidelines and community resources. Conducting complementary research on provider practices could also help ensure that guidelines are responsive to providers' training needs. Given that engagement with formal health care systems may be limited by discomfort with health care providers and institutions, past negative health care experiences and low access to health care, evidence-based community resources are urgently needed.

There is also a need for standardized measures for assessing tucking history and practices. For example, an Amsterdam-based study of transgender women seeking fertility preservation reported much lower rates of tucking (77.0% never tucked and only 8.9% tucked >8 times/month) than in our study.[5] However, around 50% reported wearing tight undergarments sometimes or always.[5] de Nie et al. measured wearing tight undergarments and tucking separately, whereas we categorized tight undergarments as a tucking method, leading to varied conclusions on tucking prevalence.

Limitations

Our small sample limited our ability to assess relationships between tucking and other health outcomes and experiences. The tucking questions did not address mental health effects of tucking, and it may have been challenging for participants to attribute physical symptoms to tucking. Further, participants were asked to reflect on average tucking practices across their tucking history, which masks variability over time and may lead to recall bias.

Conclusion

In summary, we recommend that health care providers

1. routinely ask transfeminine patients about tucking practices, assess for commonly reported health effects, and consider health-related and sociostructural factors that may have a role in tucking experiences and outcomes;
2. assess interest in and address barriers to surgery during health care conversations about tucking and gender goals, for patients engaging in tucking;
3. use a harm reduction approach when advising patients about tucking by paying attention to their mental health and safety needs, providing evidence-informed counseling on safer tucking practices and sharing resources on access to safe and affordable tucking materials.

Authors' Contributions

M.M. contributed to methodology, software, project administration, investigation, data curation, formal analysis, visualization, writing—original draft, writing—review and editing; E.E.C. performed project administration, investigation, data curation, writing—review and editing; J.-M.B. provided funding acquisition, conceptualization, methodology, and software. T.P. contributed to funding acquisition, conceptualization, methodology, resources, writing—review and editing, and supervision.

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Author Disclosure Statement

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Supplementary Material

Supplementary Appendix SA1

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Abbreviations Used

AMAB = assigned-male-at-birth
BTC = Be the Conversation
JHSPH = Johns Hopkins School of Public Health